FIG 1

Input: (implicit: topology, routing, budgets)

$B_{hot} := B$

while $B_{hot} \neq 0$ do

select $b^* \in B_{hot}$ with the largest blocking probability

$c_u^{inc} := 1$

if $(\forall l \in \mathcal{E} : c_u^{free}(l) \geq c_u^{inc} \cdot (l, b^*))$ then

$c_u[b^*] := c_u[b^*] + c_u^{inc}$

else

$B_{hot} := B_{hot} \setminus b^*$

end if

end while

Output: assignment of portions of transmission capacity $c_u[b]$, $b \in B$

FIG 2

Input: Link l (implicit: topology, routing, budgets)

if $| \{b : b \in B_{hot} \wedge u(l,b) > 0\} | > 0$ then select

$b^* \in B_{hot} : u(l,b^*) > 0$ with the largest blocking probability

$c_u^* := \lfloor q(l) \cdot a(b^*) \rfloor$

$p_b^* := p_b(a(b^*), c_u[b^*] + c_u^*)$

for all $b \in \{b : b \in B_{hot} \wedge u(l,b) > 0\}$ do

$c_u^b := \lfloor q(l) \cdot a(b) \rfloor$

$p_b^b := p_b(a(b), c_u[b] + c_u^b)$

while $p_b^* < p_b^b$ do

$c_u^* := \lfloor q^{dec} \cdot c_u^* \rfloor$

$p_b^* := p_b(a(b^*), c_u[b^*] + c_u^*)$

end while

end for

else

$c_u^* := 0$

end if

Output: link capacity increment c_u^*

FIG 3

Input: (implicit: topology, routing, budgets)

for all $l \in \mathcal{E}$ do

$\quad c_u^{inc}[l] := CapInc(l)$

end for

$B_{hot} := B$

while $B_{hot} \neq 0$ do

select $b^* \in B_{hot}$ with the largest blocking probability

$c_u^{inc} := max(1, min_{l \in \mathcal{E}: u(l,b) > 0}\ c_u^{inc}[l])$

if $(\forall l \in \mathcal{E}: c_u^{free}(l) \geq c_u^{inc} \cdot u(l,b^*))$ then

$\quad c_u[b^*] := c_u[b^*] + c_u^{inc}$

else

$\quad B_{hot} := B_{hot} \setminus b^*$

end if

for all $l \in \mathcal{E}$ do

$\quad$ if $u(l,b^*) > 0$ then

$\quad\quad c_u^{inc}[l] := CapInc(l)$

$\quad$ end if

end for

end while

Output: assignment of portions of transmission capacity $c_u[b]$, $b \in B$